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ABSTRACT

The role of psychosocial immaturity in the behavior of adolescent mothers remains unexplained. This project explores the validity of Newberger's Parental Awareness (PA) model which outlines the development of parents' conceptions of their parental role. PA distinguishes parents reported to be abusive from non-abusive parents. This study tests the previously untested hypothesis that, among adolescents, PA is positively associated with mother-child interaction. An age-stratified sample of 136 mothers aged 15-20 with a first-born child aged 9-27 months, was drawn from two urban programs. During two home visits, PA interviews were conducted and observations made of mother-child interactions. Three methods for recording behavior were used and data were reduced to 27 variables. Multiple regression analyses allowed controlling potential confounders prior to hypothesis testing. PA proved associated with more of the mother-child interaction variables than any other variable, including socioeconomic status, presence of mate, recent life changes and verbal ability. These findings suggest PA is an important developmental dimension for service programs which could either promote development or accommodate an achieved level of awareness. (Author/ABL)

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Parental Awareness: A Social Cognitive Explanation of Adolescent Mother-Child Interaction

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PARENTAL AWARENESS:
A SOCIAL-COGNITIVE EXPLANATION
OF
ADOLESCENT MOTHER-CHILD INTERACTION

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The role of psychosocial immaturity in the behavior of adolescent mothers remains unexplained. This project explores the validity of Newberger's Parental Awarness (PA) model which outlines the development of parent's conceptions of their parental role. PA distinguishes parents reported as abusive from non-abusive parents. This study tests the previously untested hypothesis that, among adolescents, PA is positively associated with mother-child interaction.

An age-stratified sample of 136 mothers aged 15-20 with a first-born child aged 9-27 months, was drawn from two urban programs. During two home visits, PA interviews were conducted and observations made of mother-child interactions. Three methods for recording behavior were used and data reduced to 27 variables. Multiple regression analyses allowed controlling potential confounders prior to hypothesis testing. Parental awareness proved associated with more of the mother-child interaction variables than any other variable, including SES, presence of a mate, recent life changes and PPVT. These findings suggest PA is an important developmental dimension for service programs which could either promote development or accommodate an achieved level of awareness.

INTRODUCTION

Adolescent mothers now account for 17% of U.S. births. While the data are not entirely consistent the evidence suggests that adolescent mothers display lower quality interaction with their children than do their adult counterparts. Younger mothers appear less able to teach their young children (Levine, Garcia and Coll Oh, 1985), are less accepting and less likely to show positive interaction (Ragozin et al., 1982, McLaughlin, et al., 1979, Sandler 1980, Flick, Schaefer & Siegel, 1979). Socioeconomic circumstances clearly influence these phenomena but cannot entirely account for them. The role of young mothers' psychosocial immaturity in these phenomena remains unexplained.

Social cognition, one aspect of psychosocial development, refers to the structure of thought applied to conceptualize human social relationships. The work of Kohlberg and Selman in this area shows that significant development in social cognition continues into late adolescence (Kuhn, Langer, & Kohlberg, 1974, Dulit, 1972). Theoretically, such development directly influences the behavioral and emotional characteristics of adolescents and therefore would influence the quality of interaction between an adolescent mother and her child.

This project explores the validity of Carolyn Newberger's model of parental awareness. Her model outlines hierarchical stages in the structural development of social thought in the domain of parents' conceptions of their children and their role as parents (Newberger, 1977; Newberger, 1980). Among adults, parental awareness increases with parental experience and distinguishes dysfunctional parents from non-dysfunctional as indicated by abuse or neglect reports (Newberger, 1977). However, the model has not been previously applied to a population of young parents among whom significant social cognitive development can be predicted. Furthermore, the relationship of parental awareness to the actual behavior of parents remains unexplored.

This research project tests two hypotheses: That among adolescent mothers, maternal age is positively associated with Parental Awareness and that Parental Awareness is positively associated with the quality of mother-child interaction. The test of the first hypothesis has been reported elsewhere (Flick & McSweeney, 1985) while the current paper reports the test of the second hypothesis.

The significance of the model explored by this project lies in its potential as a guide for influencing the quality of parent behavior via fostering flexible thought or by adapting methods of intervention to the parental awareness level achieved.

LITERATURE REVIEW

Newberger (1977) extended the work of Selman (1980), and Kohlberg (1958) to identify stages in the development of a parent's conception of the child and the parental role. In Newberger's model each progressive stage brings increased flexibility of thought and a greater capacity to integrate information from a variety of sources. At the most complex level a parent views him or herself and the child in the context of individual characteristics, given environmental circumstances, and their respective developmental stages.

Like Selman (1980), and Kohlberg (1958), Newberger (1977) began by identifying a set of issues which would elicit the level of understanding achieved. The issues included: authority, trust, discipline, affection, resolution of conflict, and meeting of needs. Using hypothetical situations and direct questions, she interviewed 55 parents with a variety of social and family backgrounds and classified their responses by level of awareness. From her results she developed a scoring manual and refined her four a priori stages of development.

Newberger (1977) assumes that since biomaturation is not so obviously present among adults, experience as a parent is the primary catalyst for development of parental awareness. Her position appears to be that interaction with the broad social environment and subsequent steady development in general social cognitive skills exert little impact on parents' thoughts. Newberger's assumption denies evidence suggesting that the development of formal thought and general social cognition can continue into the mid-twenties, well after completion of biomaturation (Rest, Davison and Robbins 1978, Panowitsch, 1975).

Newberger demonstrates in her adult sample that awareness about parent issues increases with length of experience as a parent and, when measured in children, that awareness increases with children's age. The previously reported results from the current study, support the hypothesis that important developmental (i.e., age-dependent) changes in the organization of general social thought occur in adolescence and that these changes influence the perception of experiences with a child and conceptualization of the parent role, (Flick and McSweeney, 1985). Early adolescents react to their perception of the social world in the context of a new and relatively untried organization of concepts. While completion of the biomaturation that precedes that reorganization may have occurred by age 15 or 16, the consequences of testing and re-testing new structures of thought may well continue in age-related fashion into early adulthood (Rest et al, 1978). Differences in the general facility with which the subject applies formal thought to interpersonal situations may influence the perceptions and reactions of mothers to their experiences with their child.

As stated previously, this project's long-term significance lies in the potential for influencing the quality of parent behavior. There exist few

empirical studies of the relationship between the complexity of social thought and actual behavior. Nevertheless, a number of relationships between moral maturity and behavior in social situations have been demonstrated (Saltzstein, Diamond & Belenky 1972, Haan, Smith & Block 1968, Turiel & Rothman 1972). Flick (Halstead 1977), demonstrated in an exploratory study of 16 adolescent mothers that moral maturity correlates positively with observations of maternal behavior. Later work (Flick, 1980) with 36 low-income mothers indicated moral maturity to be positively associated with mother-child interaction independent of verbal achievement, education of household head, and race.

Selman et al. (1977) found children with interpersonal problems achieve lower levels of interpersonal awareness than matched controls. Selman (1980) also reports an association between interpersonal awareness and classroom ratings of behavior. Newberger (1977) and Cook (1979) reported parental awareness scores differentiate abusive or neglectful parents from matched controls. These findings support the theory that parents who display greater complexity in the structure of thought applied to child-related issues than their peers provide a more flexible and nurturant environment for the child because they can integrate greater numbers of situational variables.

Extension of the work of Selman et al. and findings from the current study (Flick & McSweeney, 1985) suggest P.A. increases with age in an adolescent sample. However, the PA model requires validation with observations of actual parent-child interaction. This model promises to contribute to knowledge or the developmental determinants of parent behavior and consequently improving understanding of how to promote adolescent parenting behavior.

METHODOLOGY

Measures

Parental Awareness: The average issue score derived from transcripts of Newberger's Parental Concepts Interview indicates parental awareness. Scoring followed the procedures specified in Newberger's scoring manual (1977). Newberger examined the internal consistency reliability of the average issue score by calculating scores separately for the two parts of the interview: the personal questions and the dilemmas. She found the two sections to be highly correlated (r =.81). She reported only 16% of the issues were unscorable by reason of insufficient information or ambiguity. Interrater reliability based on two raters reached a Pearson's r of .96. Cook (1979) reports interrater reliability, also for two raters, to be .88 based on the intraclass correlation.

Evidence regarding the construct validity of three concepts central to parental awareness follows: These are structured wholeness, (the clustering of responses in an interview around one level as evidence of distinct logical structures), developmental sequence and the influence of parental awareness on behavior. Newberger's study and two subsequent studies (Cook 1979, Newberger 1977, Partoll 1980) provide this evidence. Newberger's study, however, was used to construct the scoring manual and so her findings must be viewed cautiously.

Newberger (1977) reports 72% of reasoning levels fell at the individual's major level and 24% fell at the adjacent minor level, indicating structured wholeness, with 4% at third level. However, Cook (1979) in a study of 16 parents found a 3 level spread to be characteristic and questioned the scoring procedure.

The presence of a developmental sequence has been explored by examining the relationship between parental awareness and both age and length of experience as a parent. Newberger (1977) reports Parental Awareness correlates positively with experience as a parent when family size is partialled out. Partoll (1980) finds a similar result among 31 middle class white mothers, but Cook (1979) finds no association.

Parental Awareness increases with age among Newberger's school-age sample (1977) and among Cook's (1979) sample when the two adolescents are included. When testing only adults no relationship with age has been demonstrated to date. However, Partoll (1978) finds a strong positive relationship between parental awareness and mother's Ego Identity Status, a developmental construct. These findings support the developmental nature of Parental Awareness.

While no study observed actual behavior, Cook's (1979) results validate Newberger's finding that when matching abusive parents with non-abusive controls, the non-abusive parents display greater parental awareness.

An important issue for this study is the validity of parental awareness for a black inner-city adolescent population. Newberger's sample of 51 parents consisted of 35% blacks from a wide range of social classes. Her analyses reveal no significant differences in scores by race when controlling for social class. Cook's (1979) study sample consisted of poorly educated residents of a rural, economically depressed, area of Maine and the measure proved to discriminate abusive and non-abusive parents. These findings suggest the parental awareness interview is valid for the study population.

Mother-Child Interaction: Mother-child interaction is operationally defined by scores on three instruments: Barnard's Teaching Scale (Barnard, Eyres, Lobo & Snyder, 1983), the Clarke-Stewart Rating Scale (1973), and Schaefer's Attachment Inventory (Schaefer, Bauman Siegel & Ingram, 1978). Each instrument represents a different method for recording primary data from observations. The first requires judgments regarding the presence or absence of 73 specified behaviors describing teaching behavior. For example, does the parent use both verbal and non-verbal instructions. The Clarke-Stewart Rating Scale (C-S Scale) requests judgment in 14 global dimensions, such as how 'accepting' the mother appears. The third measure, developed by Schaefer et al. (1978), also requires subjective interpretation but of more narrowly defined behaviors. It includes 100 items such as: "Mother plays with child very little," or "Mother holds baby by choice."

Clarke-Stewart (1973) reports reliability data indicating that raters agreed within one point on her ratings. The Attachment Inventory, reduced by factor analysis to three maternal factors, yields an average interrater reliability of .45 with one unreliable factor (Schaefer et al., 1978). Dropping the unreliable factor produces an average of .68. Barnard (1978) reports that the items on the feeding scales' six subscales are positively correlated indicating uni-dimensional constructs. Test-retest reliability data for short intervals are not available.

Validity of the teaching scale subscales is supported by positive associations with measures of child development. For example, an eight month score was significantly correlated ($r = .66$) with the Bayley 12 month Mental Development Index (MDI) and Psychomotor Developmental Index. At 12 months the Teaching Scale predicted the Bayley MDI as well (Bernard, 1978).

Clarke-Stewart (1973) reports that 6 items from her rating scale correlate with detailed recordings of conceptually related behavior. A number also contribute significantly to a syndrome of optimal maternal behaviors associated with a collection of child competencies. Flick (Halstead, 1977) found 10 of the 12 rating scales to be correlated with ego development and moral maturity. Findings from a later study (Flick, 1981) indicate that for 10 of the 12 ratings, adolescent mothers with higher scores had infants who cried less and appeared more attentive. This was not found for the adult mothers. This measure appears to be sensitive to developmentally related behavior and valid as an indicator of behavior related to child competence.

Peabody Picture Vocabulary Test-Revised: Since measurement of Parental Awareness and maternal behavior could be influenced by the mother's verbal achievement, a shortened version of form L of the Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981) was included. This revision reduces racial, sexual and regional biases present in the original version. Vocabulary words of graduated difficulty are read to subjects who then choose the one picture out of four which illustrates the word. The Peabody Picture Vocabulary Test-Revised (PPVT) is easy to administer and requires no reading skills making it attractive for use with a population with little education. Administering every second word reduced administration time. Scoring of such a modified version is described elsewhere (Flick, 1980).

Test-retest and alternate form reliability have been reported to be high, .52 to .91, over a variety of age ranges, with test-retest intervals of up to one month (Dunn & Dunn, 1981). The revised test appears slightly more reliable than the original. The authors of the test (Dunn & Dunn, 1981) report a mean internal consistency for ages 14-18 of .80.

Hunt concluded that there was ample evidence of content and item validity on the original version, that the vocabulary words were a representative selection, and that the progressive difficulty matched age patterns in vocabulary acquisition. But, he also cites studies indicating limited validity as a measure of learning capacity. Concurrent validity, correlations with verbal and non-verbal measures of intelligence have been reported at approximately .60 and correlation with school achievement, indicative of predictive validity is about .50 (Frankenberg & Camp, 1975). Validity data are not available on the revised PPVT but the authors predict that the results will be comparable to those for the original based on studies comparing the two versions (Dunn & Dunn, 1981).

For the current study the raw scores were transformed according to the 'IQ' tables provided. These scores are considered to be more valid as age-standardized indicators of vocabulary comprehension than as an equivalent to general intelligence test scores.

Training of Interviewers

Parental Awareness Interview - Training of the interviewers to conduct this interview and probe for the respondent's reasoning took nearly 10 weeks and consisted of classroom work and critiques of tape recorded interviews.

Observer Training - Observer training using Barnard's Nursing Child Assessment Satellite Training Project (NCAST) videotapes, a NCAST certified instructor and videotapes made for the project included nine class hours and from three to six hours of in-home practice observations. Observers were paired for training and had to achieve 85% agreement with their partners on three observations with the Teaching Scale and an average agreement of within one

scale point on the rating scales. A three hour session two-thirds of the way through the data collection year refreshed the observer's knowledge of the measures.

Sampling

An age-stratified sample was drawn from the population of young women referred to two voluntary programs within the St. Louis Public Schools. Neither program applies any criteria for admission other than being a pregnant adolescent or an adolescent parent. Both programs provide educational support and some preparation for parenthood. Eighty-five percent of those referred to either program attend school and 90% are non-white. Sampling was limited to mothers whose first born child would be between the ages of 9 to 27 months at the time of the second visit. Only subjects whose child weighed at least 2500 grams and was without significant health problems at birth were accepted. Subjects were contacted in the order they were identified until the cells were filled with volunteers or until no more eligibles were identified. Table 1 summarizes the age distribution of the final sample.

Insert Table 1

As Table 1 indicates, 15 year olds are underrepresented. To have a child within the required age-range these mothers had to have been 12-13 at conception. Consequently, they were difficult to find. Table 2 summarizes the sample characteristics. The young mothers were 93% black and averaged 10 years of schooling. Most report having a boyfriend (62%) while the majority live with one or both parents (77%) or other adult relatives (16%). Ratings of social status were based on the education and occupation of the head of household when the young mother was fourteen. Although primarily low income

(Class IV, 45%; Class V, 38%), the heads of households had social status rankings at all but the highest level (Class III, 15%; Class II, 2%) on the five level Hollingshead two-factor index of social class. The average head of household had 10-11 years of high school and had an occupation ranked with semi-skilled workers such as nurses aides or truck drivers.

Insert Table 2

Data Collection

Data collection began in October 1982 and was completed in December of 1983. The data were collected during two visits to subjects' homes. On the first visit, following collection of brief background information, Newberger's Parent Concepts Interview was administered with replacement of one dilemma with a situation which is particularly relevant to the experience of mothers with young children. The interview took from 45-60 minutes and was tape-recorded for later transcription. Also during this visit, the Peabody Picture Vocabulary Test-Revised (PPVT) was administered to the mothers.

Mother-child interaction was observed during a second home visit, two to four weeks later. On this visit, the mother was asked to have the child attempt three or four simple tasks from the Denver Developmental Screening Test (DDST). Two of the three were developmentally appropriate for the child's age, the third was at the upper limit or slightly beyond the child's expected capabilities as determined by the DDST form.

Mothers were instructed to ignore the observer and to use whatever method they prefer to teach and motivate the child. They could demonstrate the task or guide the child's hand through it, but the goal was to have the

child perform independently. Mothers were informed that no child was expected to perform all three tasks. A 15-20 minute period of free play followed completion of the tasks.

Observations were recorded using the teaching scale immediately following the three tasks and using the other two instruments after the entire visit. The observations took from 45 to 60 minutes.

DATA ANALYSIS & RESULTS

Associates of Newberger contracted to score the PA interviews from verbatim transcripts. All four PA levels are represented in the single issue-concept scores. The average issue scores range from 1.00 to 2.91 out of a maximum possible score of 4.00. This represents a good range for a young disadvantaged population.

The PA interviews were scored blind by one scorer through an arrangement with Newberger. To test scoring reliability 10 randomly selected interviews were cut into the issue-concept segments identified by the original scorer. Coded and mixed, the segments were sent back to the original scorer and a second scorer for scoring. The scorer was then unable to identify the interview from which any one of the 93 segments came. The original scorer had scored the entire interview as much as 8 months before. After each scorer scored the segments separately, the second scorer scored the 10 interviews as wholes.

This allowed 3 tests of reliability: within scorer agreement on segments vs. wholes, and between scorer agreement on the whole interview, and on the segments. The results are summarized below in Table 3.

Segment by segment agreement within scorer as opposed to Average Issue Score agreement was calculated for the scorer of the entire sample as well. In 78% of segments she agreed with her previous assignment of the Issue addressed and in 84% of cases with assignment of an Issue Concept Score that was the same or less than a full level different from her previous score. Three percent of segments were eliminated because the segment was rated unscorable either at the first or the second scoring, but not both.

Insert Table 3

These results indicate a high level of reliability particularly for the Average Issue Score. Reliability declines when the individual issue concept scores, from which the Average Issue Score is derived, are examined.

Mother-Child Interaction Data

Interobserver Agreement - Interobserver agreement was measured at the midpoint and at the end of the data collection year using two methods. First, all four interviewers independently scored one videotape of a young mother and child. This allowed calculation of the agreement between all six paired combinations of interviewers. Then four randomly selected pairs made joint home observations for a total of 10 paired observations at each reliability check for a grand total of 20. Agreement on the Clarke-Stewart Rating Scale (C-S) and the Attachment Inventory (AI) stayed within one scale point from the training throughout data collection with no difference between the videotapes and the home visits. Observer agreement on the videotapes when using the Teaching Scale (TS) also failed to decline over time. However, the 80% agreement on the TS obtained from the videotapes fell to 70% for the home visits at both data points. The interviewers felt the difference was due to

having two different perspectives on the home visit while seeing the videotaped session only from the perspective of the camera.

Standardization of Ratings - The C-S and AI measures require rating behavior on scales which have no absolute meaning, only the relative meaning assigned by the observer. Consequently, observer preference in the use of the full range of the scale potentially reduces the internal reliability of the measure when ratings are made by more than one observer. In this case four observers collected approximately equal proportions of the data. A one-way analysis of variance indicated that the observer accounted for 25-35% of the variance in the C-S and the AI ratings. For example, one observer preferred the more positive end of all scales, another's ratings clustered in the middle range while a third used the whole range of scores. Consequently, scores were standardized to make them comparable by removing systematic scale preference. Each observer's ratings were converted to z scores based on the distribution of their item ratings.

Separate factor analyses of the three instruments were attempted in order to reduce the 187 interaction variables to the smallest number of interpretable and internally consistent scales. These factor analyses yielded interpretable results only for the AI. Thus, the a priori subscales on the TS and the individual ratings on the C-S were used in subsequent analyses. The factor analyses mentioned previously and analyses of the relationships among the mother-child interaction measures are reported elsewhere (Flick & McSweeney, 1984).

Minimal missing data (0-3 cases per item) allowed replacement of missing values with the item's mean value for the whole sample on the Teaching Scale and with the item's mean by observer for the standardized ratings. Consequently, all 136 parent cases could be used in the factor analyses.

For the AI, principal axis factor analyses with varimax rotation, specifying four factors, produced four well differentiated interpretable factors.

I. Affectionate Contact - includes items describing soothing or affectionate physical contact such as 'Mother (M) holds on lap for long periods of time,' and 'M soothes by holding or cuddling.'

II. Rejection - includes items with heavy factor loadings such as "M thinks child is unattractive' and 'M seems ill at ease in care of the child.'

III. Insensitivity - seems to be characterized by lack of sensitivity to the child's experience. Items with heavy factor loadings include 'M uses harsh voice,' 'M is rough or abrupt in handling.'

IV. Interaction/Stimulation - includes items describing a style of interaction that rewards and encourages development. Representative items with heavy factor loadings include 'M points out things C can do,' and 'M praises new responses."

Analysis of the child items followed the same procedure and produced three factors.

I. Positive/Expressive Interaction - includes behavior describing the child's expressions of warmth and affection.

II. Responsiveness vs. Withdrawal - includes such items as 'C tries to withdraw from contact with M,' and 'C is restless and irritable in interaction with M.'

III. Detachment - includes 'C spends little time looking at M,' and 'C has little eye-to-eye contact with M.'

To test the hypothesis that Parental Awareness (PA) is positively associated with mother-child interaction, PA was regressed separately on each of the 27 mother-child interaction variables. The use of multiple regression analyses allowed controlling for the following potential confounders: baby's age in months, SES, age-adjusted PPVT(R) score, whether or not the young mother has a boyfriend and the number of recent life changes. In each of the 27 regression models, the two-factor interaction terms failed to significantly add to the variance explained by the main effects, consequently, interaction terms were not included in the tests of the hypothesis.

Insert Table 4

Table 4 summarizes the 27 tests of the relationship between PA and mother-child interaction. Ten of the 27 mother-child interaction variables prove significantly associated at the .05 level with PA while controlling for confounders. In all cases the observed behaviors are more positive as PA the scores increase. However, this table does not show that PA is significantly associated with a greater number of the mother-child interaction variables than are any of the confounding variables such as SES, whether or not living with parents and performance on the PPVT. Of the confounders, baby's age achieves significance most frequently with five such relationships, and 'living with two parents' follows with three such relationships. In fact, in 9 out of 10 equations where PA contributes significantly to the model, none of the other seven variables entered reaches significance at the .05 level when controlling for the effects of the other variables.

Although PA consistently accounts for more variance in each of the 27 mother-child interaction variables than any other single variable entered, the proportion of variance it explains is small, on the order of 4% to 8%. Because so little variance is explained by any variable, only two of the 10 complete models to which PA contributes significantly actually achieves a significant F for the entire model (Table 4). The dependent variables in these two models include Child's Responsiveness vs. Withdrawal and Closeness of Physical Contact. In the first model, PA accounts for nearly all explained variance while in the second the child's age and the presence of a boyfriend also contribute significantly. As might be expected, Closeness of Physical Contact decreases with the age of the child. But, Closeness of Contact between mother and child also decreases when the mother has a boyfriend. While this appears to contradict the idea that the greater social support from having a boyfriend would increase the attachment between mother and child, these findings are consistent with those of Egeland et al., (1979). He found that the attachment between mother and child was enhanced by the mother's having a live-in mate but a mate (husband or boyfriend) who did not live with the mother and child had a negative impact on mother-child interaction. In this sample, only 5% live with a boyfriend or husband.

IMPLICATIONS AND CONCLUSIONS

These results produce a mixed picture regarding the underlying question of whether PA, as a measure of the social cognitive development of adolescent mothers, plays a meaningful role in the quality of a young mother's behavior with her child. The results reported elsewhere (Flick & McSweeney, 1985) clearly support the notion that social cognitive development in the domain

defined by the Parental Awareness measure continues during adolescence and early adulthood. The thought of younger adolescent mothers about their children appears more concrete, more conventional, and less influenced by complexities such as the child's individual differences or the extenuating circumstances of a given situation than is the thought of older adolescents. Older adolescents appear better able to understand the behavior of children in the context of the child's personality, developmental stage, and other circumstances that influence needs and responses unique to a given child. That is, as adolescent mothers mature, their ability to see the world through the eyes of a child increases. This relationship obtains beyond the effect due to experience as a parent, although the range of experience in this sample is limited (0-27 months of experience apparent). But, as expected, the range of individual differences in development that appears by the time adolescence has been reached produces a small correlation between mother's age and PA (partial $R = .05$, $p < .01$), (Flick & McSweeney, 1985). Consequently, age is not a reliable indicator of maturity for a given individual.

The practical importance of Parental Awareness regarding the observeable quality of adolescent maternal behavior and consequently the potential for influencing behavior through promoting or accommodating Parental Awareness is less clear. Parental Awareness emerges as the clearly dominant variable associated with mother-child interaction in models including numerous variables shown to be influential in the literature. Yet, in this sample, the relative contribution of all variables including PA, is small. While this could indicate PA has little practical importance as a predictor of actual behavior, the pattern of results makes it more likely that these results are a consequence of the difficulty of reliably measuring mother-child interaction. While the partial correlations between PA and the interaction measures are

small (.20 to.30) they are similar in magnitude to those obtained by Schaefer et al (1978) between mother-child interaction and sociodemographic variables.

This problem may be intensified when observing the behavior of young parents. Previous work suggests that pairs of observers show lower inter-observer agreement when observing mothers under the age of 20 when compared to observations of similar older mothers (Flick, 1981). This suggests that younger mothers' behavior may show less behavioral consistency within a given observation than do older mothers. In fact, data from the same study suggest greater variability within the group of young mothers when compared to older adolescents and adults, as well. Consequently, adolescent maternal behavior may well be inherently less stable and therefore more difficult to measure reliably.

If the above is accepted, then Parental Awareness, which achieves significant relationships with many more mother-child interaction variables than does any of the other variables entered in the multivariate analyses, shows promise as a dimension of adolescent development which influences the quality of the relationship between a young mother and her child.

Adolescent mothers with high Parental Awareness appear to provide significantly more encouraging and positive stimulation to their children, to display more frequent eye contact and a more accepting attitude, to stimulate them socially more often, to respond more readily to the child's distress, to express more positive emotion to them, to be more effective in their behavior with the child, to show closer physical contact and to have a child that is more responsive to their approach and less likely to withdraw than do young mothers with low Parental Awareness Scores. And, among this inner city sample, their behavior is independent of experience as a parent, relative social status, child's age, living arrangements, presence of a boyfriend,

number of negative life events, and score on the PPVT(R).

These findings cautiously support the potential of Parental Awareness. They suggest it is a developmental dimension which should be taken into account in service programs to support young mothers and their children either through promotion of development or through accommodating the client's achieved level of awareness in the methods used to teach and support parenting skills.

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TABLE 1
Age Distribution

Mothers' Age in Years	n
15	12
16	26
17	27
18	24
19	24
20	23
TOTAL	136

TABLE 2
Descriptive Statistics (n = 136)

A) Continuous Variables

	Mean	S.D.	Range
Baby's Age in Mos. (1st H.V.)	15.9	5.5	2-26
Baby's Age in Mos. (2nd H.V.)	16.6	5.5	9-27
SES[1]	59.1	10.6	30-77
PPVT(R)	75.8	16.4	42-118
Number of Recent Negative Life Events	5.2	3.5	0-16
Mother's Age in Years	17.7	1.6	15-20
Parental Awareness Score	159.4	29.3	100-291
Mother's Education	10.4	1.3	7-13

B) Categorical Variables

	(No.)	%
Living Situation		
With 1 Parent	(61)	45
With 2 Parents	(44)	32
Other	(31)	23
Missing	(0)	--
Total	(136)	100
Race		
Black	(126)	93
White	(10)	7
Total	(136)	100

[1]The Hollingshead two-factor index of social position. Based on the education and occupation of the head of the household when the young mother was fourteen.

Class I = 11-17
Class II = 18-31
Class III = 32-47
Class IV = 48-63
Class V = 64-77

TABLE 3

Inter and Intra Scorer Reliability on the PA:

Pearson Correlations Between Average Issue Scores (n=10)

Within Scorer Agreement (Segments with Whole)	Between Scorer Agreement (Whole with Whole)	Between Scorer Agreement (Segments with Segments)
Sample scorer r = .96 Second Scorer r = .86	r = .94	r = .94

TABLE 4

Parental Awareness Regressed on Each of the Mother-Child Interaction Variables Controlling for Selected Confounders[1] (n=136)

Variable	B Value	Standard Error	Partial F	Partial R^2	Full Model[2] R^2
Attachment Inventory					
Maternal Factors					
Affectionate Contact	.0042	.0031	1.83	.02	.07
Rejection	.0034	.0030	1.31	.01	.11
Insensitivity	.0037	.0029	1.56	.02	.15**
Interaction/Stimulation	.0064	.0030	4.48*	.03*	.09
Child Factors					
Positive Expressive Interaction	.0046	.0030	2.34	.02	.03
Responsiveness vs. Withdrawal	.0100	.0029	11.63**	.08**	.12*
Detachment	.0020	.0028	0.52	.01	.12*
Clark-Stewart Rating Scale					
Child's Activity Level	.0023	.0031	0.56	.00	.09
M's Tone of Voice	.0055	.0032	3.06	.03	.05
M's Expressed Positive Emotion	.0083	.0031	7.13**	.06**	.08
M's Attitude	.0063	.0031	4.09*	.03*	.06
Amount of Physical Contact	.0054	.0031	3.04	.02	.10
Closeness of Physical Contact	.0089	.0029	9.23**	.07**	.17**
Vigor of Phys. Contact	.0040	.0031	1.58	.01	.06
Auditory-Verbal Contact	.0049	.0030	2.65	.02	.14*
Eye Contact	.0079	.0031	6.40*	.05*	.08
Amount of Social Stimulation	.0074	.0031	5.85*	.04*	.10
M's responsiveness to C's Social Stimulation	.0041	.0031	1.71	.01	.07
M's Response to Distress	.0049	.0032	2.39	.01	.03
Effectiveness of M's Behavior	.0077	.0031	6.24*	.05*	.09
Appropriateness for Age and Ability of C	.0042	.0032	1.78	.01	.05
Teaching Scale					
M's Sensitivity of Cues	.0045	.0040	1.25	.01	.03
M's Response to Distress	.0197	.0082	5.81*	.04*	.07
Social-Emotional Growth Fostering	.0104	.0054	3.63	.03	.09
Cognitive Growth Fostering	.0103	.0094	1.21	.01	.09

TABLE 4
(Continued)

Variable	B Value	Standard Error	Partial F	Partial R^2	Full Model R^2
C's Clarity of Cues[3]	-.0092	.0039	5.66*	.04*	.10
C's Responsiveness to Parent	.0166	.0086	3.75	.03	.06

*p <.05; **p <.01; ***p<.001

[1]The control variables in each model include baby's age in months, SES, the age-adjusted PPVT(R) score, whether or not the adolescent mother lives with one parent, two parents or neither parent (expressed as two dummy variables), the presence or absence of a boyfriend, and the number of recent negative life events.

[2]The full model includes parental awareness and the seven control variables described in footnote 1. The two variable interactions were found not to contribute significantly to the variance explained by the main effects model and therefore were exluded from the tests of the hypothesis.

[3]After dropping items which reduced the internal reliability of this subscale, the remaining items indicated only the child's distress cues. Consequently, children who exhibit more distress obtained a higher clarity of cues score.